

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A compensating shaft for reciprocating piston engines comprising at least one compensating weight with an eccentric center of gravity, the compensating weight being connected torsionally elastically to the compensating shaft, wherein the compensating weight surrounds the compensating shaft with its edge zones and a window is formed therebetween in the longitudinal direction, ~~in which~~ wherein an elastic element is ~~provided, which~~ disposed within the window and is supported on the compensating shaft in the circumferential direction, and wherein the elastic element is made of plastic and has an elasticity which is graduated in the circumferential direction including a hard central part interconnected with the compensating shaft which is firm in the circumferential direction, and a soft part bearing against the compensating weight.

2. (original) The compensating shaft as claimed in claim 1, wherein the elastic element is a spring damper unit.

3-4. (cancelled)

5. (currently amended) The compensating shaft as claimed in claim [[4]] 1, wherein the plastic part is manufactured by injection molding comprising a root projecting into a transverse bore of the shaft for interconnection therewith .

6. (original) The compensating shaft as claimed in claim 5, wherein the root comprises a metal reinforcement.

7. (currently amended) A ~~compensation~~ compensating shaft for a reciprocating piston engine, said ~~compensation~~ compensating shaft comprising:

a compensation weight having an eccentric center of gravity and a longitudinal window;

a shaft rotatably supporting said compensation weight and having a variable rotational speed; and

a ~~damping member~~ spring damper disposed within said window and elastically coupling said compensation weight and said shaft and enabling relative rotation between said shaft and said compensation weight when said rotational speed of said shaft changes, and wherein said spring damper includes a spring having a first end communicating with said shaft and a second end communicating with said compensation weight, said spring biasing relative rotation between said shaft and said compensation weight, said spring damper further includes a stop having a first end fixed to said shaft and a second end such that communication between said second end and said compensation weight limits relative rotation between said compensation weight and said shaft when said rotational speed of said shaft changes.

8-11. (cancelled)

12. (currently amended) The ~~compensation~~ compensating shaft of claim 7, wherein said compensation weight is a plurality of compensation weights and ~~said damping member is a plurality of damping members, each of said plurality of damping members disposed within one of said windows~~ supported on said shaft.

13. (cancelled)

14. (currently amended) The ~~compensation~~ compensating shaft of claim ~~[[13]]~~ 22, wherein said compensation weight has a closed cylindrical contour when said damping member is disposed in said window.

15-16. (cancelled)

17. (currently amended) The ~~compensation~~ compensating shaft of claim ~~[[16]]~~, 22 wherein said first elasticity is less than said second elasticity.

18-19. (cancelled)

20. (currently amended) The ~~compensation~~ compensating shaft of claim ~~[[18]]~~ 25, wherein said damping member further includes a reinforcing pin disposed in said protrusion.

21. (currently amended) The ~~compensation~~ compensating shaft of claim 20, wherein said reinforcing pin is a metal reinforcing pin.

22. (new) A compensating shaft for a reciprocating piston engine, comprising:
a compensation weight having an eccentric center of gravity and a longitudinal window;

a shaft rotatably supporting said compensation weight and having a variable rotational speed; and

a damping member disposed within said window and elastically coupling said compensation weight to said shaft and enabling relative rotation between said shaft and said compensation weight when said rotational speed of said shaft changes, said damping member is made of an elastic material and includes a first portion having a first elasticity and a second portion having a second elasticity, said first portion is coupled to said shaft and said second portion is disposed between said first portion and said compensation weight.

23. (new) The compensating shaft of Claim 22 further including a third portion having a third elasticity, said third portion is disposed between said first portion and said compensation weight opposite said second portion.

24. (new) The compensating shaft of Claim 23 wherein said third elasticity is equal to said second elasticity.

25. (new) A compensating shaft for a reciprocating piston engine, comprising:
a compensation weight having an eccentric center of gravity and a longitudinal window;

a shaft rotatably supporting said compensation weight and having variable rotational speed; and

a damping member disposed within said window and elastically coupling said compensation weight to said shaft for enabling relative rotation therebetween in response to changes in said rotational speed of said shaft, said damper member is made of an elastic material and includes a first portion having a protrusion disposed in an aperture formed in said shaft for coupling said damper member to said shaft.

26. (new) The compensating shaft of Claim 25 wherein said damper member further includes a second portion connected to said first portion and arranged to engage a surface of said compensation weight within said window.

27. (new) The compensating shaft of Claim 26 wherein said second portion has a second elasticity which is greater than said first elasticity of said first portion.

28. (new) The compensating shaft of Claim 27 wherein said damper member further includes a third portion connected to said first portion opposite said second portion and arranged to engage a second surface of said compensation weight within said window.

29. (new) The compensating shaft of Claim 28 wherein said third portion has a third elasticity which is greater than said first elasticity of said first portion.